



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,848	12/29/2003	David Tseng	S63.2N-14166-US03	6431
490 7590 06/22/2010 VIDAS, ARRETT & STEINKRAUS, P.A. SUITE 400, 6640 SHADY OAK ROAD EDEN PRAIRIE, MN 55344				
EXAMINER STROUD, JONATHAN R				
ART UNIT 3774		PAPER NUMBER		
MAIL DATE 06/22/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/747,848

Applicant(s)

TSENG ET AL.

Examiner

JONATHAN STROUD

Art Unit

3774

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16 and 18-27, 29-35 is/are pending in the application.
- 4a) Of the above claim(s) 3, 25-27 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-14, 16, 18-24, 29-33 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

After receiving the Appeal Brief, filed 03/15/2010, and after a careful review of the prior art rejection, it has been determined that more pertinent prior art should be made of record. Accordingly, prosecution is reopened and this office action restarts prosecution.

Response to Arguments

1. Applicant's arguments filed 03/15/2010 have been fully considered but they are moot in light of the new grounds of rejection.

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

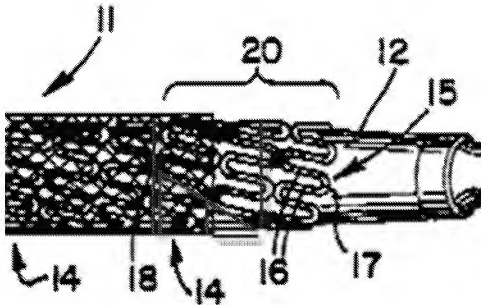
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-14, 16, 18-25, 29-33, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Cottone, Jr. 5,549,663, or in the alternative, under 35 U.S.C. 103(a).

Re claim 1, 6, 14, 32, and 33, Cottone Jr. (Cottone) discloses a plurality of circumferential hoops (elements in 20 comprising struts 16 and curved portions 17) disposed in a helical succession, *abstract, fig. 1, 4, 6*, defined by a single continuous filament which is defined by a successive series of substantially straight struts 16 and apex sections 17 connecting them and alternately pointing in alternant directions; and

At least one connecting member, weld-and-apex sections @ weld near marker 16, preventing relative movement and comprising either a) a direct connection between linear portions thereof (shown in fig. below, welds connect adjacent lateral linear

portions at apex sections) or b) a separate bridging member having a first portion welded to the second strut, see *fig. 1, abstract*.



Re claims 7, 8, 22, Cottone discloses end hoops, see figs. 1, 3, and 4, with end hoops or end segments which point outwardly from the stent, and whose apex sections lie in a common plane perpendicular to the axis to the stent - from the figs. it necessarily flows that the end-zones are limited in size and shape to render them substantially uniform in a common plane perpendicular to the axis of the stent.

In the alternative, it would have been obvious to one of ordinary skill in the art at the time of invention to alter the lengths - as suggested and disclosed in Cottone, particularly fig. 3 and 4 - to lie in a common plane, in order to reduce stress or damage and to provide a known end to the device at which it could be implanted.

Re claim 9, under the same logic, Cottone either discloses end hoops which are progressively shorter, see figs. 1 and 3 and 4, or it would be obvious for the reasons discussed above to do so.

Re claim 10, the apex sections overlap laterally and longitudinally with the spacing of other apex sections and struts.

Re claim 11, the apex sections are aligned and adjacent to other struts.

Re claim 12, the sections are welded together at various radial and longitudinal lengths.

Re claim 13, the end struts all end short of the apex sections at the end of the device.

Re claim 16, 19 and 29, the connecting members are weld dots, existing "parallel" to and extending from the longer struts, which they directly connect in parallel.

Re claim 18, the struts axially adjacent axially to one another.

Re claim 20 and 30, the connecting member – weld – comprises a separate bridging member – the curved portion of the stent, the linear portion, or alternatively, the weld dot – welded to the second strut, which is linear.

Re claim 21, all apices include included angles – and those angles change in the end regions, see fig. 4 – to enable the struts to align.

Re claim 4, 5, 23, and 24, Cottone discloses a device with a uniformly spaced and distributed connecting means, according to a predetermined helical spacing (i.e., not random), which staggers some of the connection means once every 360 degrees, plus one-half turn, staggered. Under one reasonable interpretation, any of the adjacent

"hoops" could be coupled together to be considered one large "hoop," in which case two hoops would have a stagger of *approximately* 450 (one full turn $360 + 90$ (or one-half of the length of a diagram taken in profile), see fig. above.

In the alternative, it would have been obvious to one of ordinary skill in the art to alter the consistency and distance between welds or connections, as it has been held obvious to alter results-optimal variables, and the prior art recognizes the placement/radial distance of each weld as such, col. 4 ll. 20-40 – "pitch angle," "weld groups – spaced generally circumferentially ..."), absent some showing of criticality. See *MPEP 2144.05 II A*.

Re claim 2, the struts can vary in length at the endzones, see fig. 3.

Re claim 31, the bridging members connect only adjacent hoops, See figs.

Re claim 35, not all apex sections are connected, see figs. 1 or 3.

Claims 1-2, 4-14, 16, 18-25, 29-33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Becker 6,117,165.

Re claim 1, 6, 14, 32, and 33, Becker discloses a plurality of circumferential hoops (see figs. 1, 2, 4 and 5) disposed in a helical succession, *abstract*, defined by a single continuous filament, *abstract*, "*structure comprises a continuous filament*," which is defined by a successive series of substantially straight struts and apex sections connecting them and alternately pointing in alternant directions (best and most easily seen in fig. 5); and

At least one connecting member 33 (OR various embodiments in fig. 3), preventing relative movement and comprising either a) a direct connection between linear portions thereof (fig. 3) or b) a separate bridging member having a first portion welded to the second strut, *same figs.* It is widely known in the art that a weld is a joining of two metals by a comingling of their metallic structure, thus forming a contiguous metal joint; thus, a pre-formed metal that is joined by a unitary piece would also anticipate a welded portion.

Re claims 7, 8, 22, Becker discloses end hoops, see fig. 5 especially, with end hoops or end segments which point outwardly from the stent, and whose apex sections lie in a common plane perpendicular to the axis to the stent – see tops and bottoms of fig. 5.

Re claim 9, Becker discloses end hoops which are progressively shorter, see figs. 5.

Re claim 10, the apex sections overlap laterally and longitudinally with the spacing of other apex sections and struts.

Re claim 11, the apex sections are aligned and adjacent to other struts.

Re claim 12, the sections are connected continuously together at various radial and longitudinal lengths.

Re claim 13, the end struts all end short of the apex sections at the end of the device.

Re claim 16, 19 and 29, the connecting members are bridging H-shapes or those shown in fig. 3, many existing “parallel” to and extending from the longer struts, which

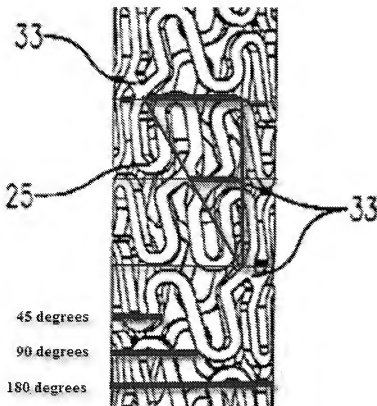
they directly connect in parallel. – e.g., connecting portions in E, D, G embodiments - or in fig. 1.

Re claim 18, the struts are adjacent axially to one another.

Re claim 20 and 30, the connecting member comprises a separate bridging member – the X or H shape connector– connected to the second strut, which is linear.

Re claim 21, all apices include included angles – and those angles change in the end regions, see fig. 4 – to enable the struts to align.

Re claim 4, 5, 23, and 24, Becker discloses a device with a uniformly spaced and distributed connecting means, according to a predetermined helical spacing (i.e., not random), which staggers some of the connection means once every 360 degrees, plus one full turn, staggered. Under one reasonable interpretation, any of the adjacent “hoops” could be coupled together to be considered one large “hoop,” in which case two hoops would have a stagger of *approximately* 450 (one full turn 360 + 90 (or one-half of the length of a diagram taken in profile), see fig. below. The first joint exists at 360+45 or 405 degrees, the second at approximately 450 degrees.



Re claim 2, the struts can vary in length at the endzones and in the body of the stent, see fig. 3 and fig. 5.

Re claim 31, the bridging members connect only adjacent hoops, See figs.

Re claim 35, not all apex sections are connected, see figs. 1 or 3.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN STROUD whose telephone number is (571)270-3070. The examiner can normally be reached on 8-4, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Isabella can be reached on 571-272-4749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jonathan R Stroud/
Examiner, Art Unit 3774

/DAVID ISABELLA/
Supervisory Patent Examiner, Art Unit 3774